

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended). A method of managing network elements in ~~a~~ an optical network at a node in the network, comprising:

providing a network element independent module that includes functions for managing different types of network elements;

providing one or more network element dependent modules that include functions for managing a specific type of network element and is in communication with the network element independent module;

providing a network management application that is in communication with the network element independent module and calls the functions of the network element independent and dependent modules to manage a plurality of network elements in a network;

receiving at the node a message indicating that there is a new network element in the network;

sending a request to ~~a~~ the new network element for information about the new network element;

initializing the network element independent module for the new network element;

determining if the new network element corresponds to one of the network element dependent modules accessible by the network management application; ~~and~~

utilizing one of the network element dependent modules to manage the new network element if the new network element corresponds to one of the network element dependent modules accessible by the network management application; and

receiving from the new network element and storing a new network element dependent module if the new network element does not correspond to one of the network element dependent modules accessible by the network management application;

wherein the new network element dependent module, network element independent module, and network management application are stored at the node so that the node is operable to communicate directly with the new network element.

Claim 2 (original). The method of claim 1, wherein the functions of the network element dependent module are executable at run time through dynamic class loading.

Claim 3 (original). The method of claim 1, wherein the network element dependent module includes specifications of the network element.

Claim 4 (original). The method of claim 3, wherein the specifications include a graphical representation of the network element.

Claim 5 (currently amended). A system for managing network elements in ~~a~~ an optical network at a node in the network, comprising:

a network element independent module that includes functions for managing different types of network elements;

a network element dependent module that includes functions for managing a specific type of network element and is in communication with the network element independent module; and

a network management application that is in communication with the network element independent module and calls the functions of the network element independent and dependent modules to manage a plurality of network elements in a network, the network management application operable to receive a message indicating that there is a new network element in the network, request information about-a the new network element, initialize the network element independent module for the new network element, determine if the new network element corresponds to one of the network element dependent modules accessible by the network management application, and receive from the new network element and store a new network element dependent module if the network element does not correspond to one of the network element dependent modules accessible by the network management application;

wherein the new network element dependent module, network element independent module, and network management application are stored at the node so that the node is operable to communicate directly with the new network element.

Claim 6 (original). The system of claim 5, wherein the functions of the network element dependent module are executable at run time through dynamic class loading.

Claim 7 (original). The system of claim 5, wherein the network element dependent module includes specifications of the network element.

Claim 8 (original). The system of claim 7, wherein the specifications include a graphical representation of the network element.

Claim 9 (currently amended). A method of managing network elements in ~~a~~ an optical network at a node in the network, comprising:

receiving at the node a message indicating that there is a new network element in the network;

sending a request to ~~at~~ the new network element for the specific type of the network element;

determining if the new network element is compatible with a specific type of another network element on the network;

if the specific type of the network element is compatible with the specific type of another network element on the network, utilizing a stored network element dependent module;

if the specific type of the network element is not compatible with the specific type of another network element on the network:

sending a request to the new network element for a network element dependent module that includes functions for managing the specific type of the network element;

executing the network element dependent module to create an interface to the network element; and

utilizing the interface to manage the network element;

wherein the network element dependent module is executed at the same node running a network management application.

Claim 10 (canceled).

Claim 11 (original). The method of claim 9, further comprising sending a request to the network element for the software version of the network element.

Claim 12 (canceled).

Claim 13 (original). The method of claim 9, further comprising receiving an object change message that there is a new network element on the network.

Claim 14 (currently amended). A system for managing network elements in ~~a~~ an optical network at a node in the network, comprising:

means for receiving at the node a message indicating that there is a new network element in the network;

~~a~~ means for sending a request to ~~a~~ the network element for the specific type of the network element;

means for determining if the specific type of the network element is compatible with a specific type of another network element on the network;

if the specific type of the network element is compatible with the specific type of another network element on the network, utilizing a stored network element dependent module;

if the specific type of the network element is not compatible with the specific type of another network element on the network;

a-means for sending a request to a network element for a network element dependent module that includes functions for managing the specific type of the network element;

a-means for executing the network element dependent module to create an interface to the network element; and

a-means for utilizing the interface to manage the network element;

wherein the network element dependent module is executed at the same node running a network management application.

Claim 15 (canceled).

Claim 16 (original). The system of claim 14, further comprising sending a request to the network element for the software version of the network element.

Claim 17 (canceled).

Claim 18 (currently amended). The system of claim 14, ~~further comprising~~ receiving wherein said message is an object change message received from a node other than the new network element ~~that there is a new network element on the network.~~

Claim 19 (canceled).

Claim 20 (canceled).

Claim 21 (canceled).

Claim 22 (previously presented): The method of claim 1 further comprising receiving a message indicating a topology change in said network and identifying said new network element.

Claim 23 (canceled).

Claim 24 (previously presented): The method of claim 1 wherein the network element dependent module comprises functions that support network element dependent communication protocols.

Claim 25 (new): The method of claim 24 wherein the network element dependent communication protocols are management protocols.

Claim 26 (new): The method of claim 1 wherein sending a request for information about the new network element comprises sending an HTTP message.

Claim 27 (new): The system of claim 5 wherein the node is a router or switch.

Claim 28 (new): The system of claim 5 wherein the new network element is an edge device.

Claim 29 (new): The system of claim 5 further comprising a user interface configured for transferring management information for the network elements to and from a user.